IN THE CLAIMS

Please amend the claims to read as follows:

Listing of Claims

1. (Canceled).

2. (Currently Amended) An attenuator with switch function, comprising:

a first variable resistor [[(41)]] inserted in a first signal line [[(47)]] which connects a first signal input part [[(43)]] with a first signal output part [[(45)]];

a second variable resistor [[(42)]] inserted in a second signal line [[(48)]] which is disposed parallel to said first signal line and connects a second signal input part [[(44)]] with a second signal output part [[(46)]];

a first and a second reference voltage applying parts ~~(51) and (52)~~ which are connected respectively with said first and said second variable resistors ~~(41) and (42)~~ and are applied respectively with different reference voltages; and

a gain control voltage applying part [[(50)]] which is connected with each one of said first and said second variable resistors ~~(41) and (42)~~ via a common gain control line [[(49)]]

, wherein as the attenuation of each one of said first and second variable resistors is controlled via said gain control voltage, either one of outputs on said first and second signal lines is blocked and the gain of the remaining output on said first and second signal lines is controlled linearly and continuously.

3. (Currently Amended) The attenuator with switch function of claim 2, wherein said first variable resistor [[(41)]] has a structure that a first resistor [[(54)]] is connected at least with the gate of a first field effective transistor [[(53)]], said second variable resistor [[(42)]] has a structure that a second resistor [[(56)]] is connected at least with the gate of a second field effective transistor [[(55)]], the gate of said first field effective transistor [[(53)]] is connected with said gain control voltage applying part [[(50)]] via said first resistor [[(54)]] and said gain control line [[(49)]], the source of said second field effective transistor [[(55)]] is connected with said gain control voltage applying part [[(50)]] via said gain control line [[(49)]], the source of said first field effective transistor [[(53)]] is connected with said first reference voltage applying part [[(51)]], and the gate of said second field effective transistor [[(55)]] is connected with said

second reference voltage applying part [[(52)]] via said second resistor [[(56)]].

4. (Currently Amended) The attenuator with switch function of claim 2, wherein a voltage applied to said second reference voltage applying part [[(52)]] is lower than a voltage applied to said first reference voltage applying part [[(51)]].

5. (Currently Amended) The attenuator with switch function of claim 3, wherein a voltage applied to said second reference voltage applying part [[(52)]] is lower, by a value which is calculated by subtracting a difference between gain control voltages which completely turn off said first and said second field effective transistors ~~(53) and (55)~~ from the sum of the threshold voltage of said first field effective transistor [[(53)]] and the threshold voltage of said second field effective transistor [[(55)]], than a voltage applied to said first reference voltage applying part [[(51)]].

6. (Currently Amended) The attenuator with switch function of claim 2, wherein the values of voltages applied to said first and said second reference voltage applying parts ~~(51) and (52)~~ are set such that the gain control voltage range over which said

first variable resistor [[(41)]] performs a gain control operation will not overlap with the gain control voltage range over which said second variable resistor [[(42)]] performs a gain control operation.

7. (Currently Amended) The attenuator with switch function of claim 2, wherein the values of voltages applied to said first and said second reference voltage applying parts ~~(51) and (52)~~ are set such that the gain control voltage range over which said second variable resistor [[(42)]] performs a gain control operation will be lower than the gain control voltage range over which said first variable resistor [[(41)]] performs a gain control operation.

8. (Currently Amended) The attenuator with switch function of claim 3, wherein the values of voltages applied to said first and said second reference voltage applying parts ~~(51) and (52)~~ are set such that a gain control voltage which completely turns off said second field effective transistor [[(55)]] will be lower than a gain control voltage which completely turns off said first field effective transistor [[(53)]].

9. (Currently Amended) The attenuator with switch function of claim 3, wherein the values of voltages applied to said first and said second reference voltage applying parts ~~(51) and (52)~~ are set such that only when one of said first and said second field effective transistors ~~(53) and (55)~~ is completely off, the other one of said first and said second field effective transistors ~~(53) and (55)~~ will perform a gain control operation.

10. (Currently Amended) The attenuator with switch function of claim 2, wherein said first variable resistor [[(41)]] has a structure that a first resistor [[(54)]] is connected at least with the gate of a first field effective transistor [[(53)]]; said second variable resistor [[(42)]] has a structure that a second resistor [[(56)]] is connected at least with the gate of a second field effective transistor [[(55)]]; the gate of said first field effective transistor [[(53)]] is connected with said gain control voltage applying part [[(50)]] via said first resistor [[(54)]] and said gain control line [[(49)]]; the source of said second field effective transistor [[(55)]] is connected with said gain control voltage applying part [[(50)]] via said gain control line [[(49)]]; a third resistor [[(57)]] is inserted between the source of said first field effective transistor [[(53)]] and a portion [[(60)]] which is connected with the gate

of said second field effective transistor [[(55)]] via said second resistor [[(56)]]; a fourth resistor [[(58)]] is inserted between said portion [[(60)]], which is connected with the gate of said second field effective transistor [[(55)]] via said second resistor [[(56)]], and a basic potential portion [[(59)]]; and the source of said first field effective transistor [[(53)]] is connected with said first reference voltage applying part [[(51)]].

11. (Currently Amended) An attenuator with switch function, comprising:

a series circuit of a first and a second variable resistors ~~(61) and (62)~~ which are inserted in at least one first signal line [[(71)]] which connects a first signal input part [[(65)]] with a first signal output part [[(68)]]; and

a third variable resistor [[(63)]] inserted in a second signal line [[(72)]] which <u>is disposed parallel to said first signal line and</u> connects a second signal input part [[(66)]] with a second signal output part [[(69)]];

a fourth variable resistor [[(64)]] inserted in a third signal line [[(73)]] which connects a third signal input part [[(67)]] with a third signal output part [[(70)]],

wherein as the attenuation of each one of said first, said second, said third and said fourth variable resistors ~~(61), (62), (63) and(64)~~ is controlled by means of a gain control voltage, the gain of either one of outputs on said first, said second and said third signal lines ~~(71), (72) and (73)~~ is controlled linearly and continuously and the remaining ones of said first, said second and said third signal lines ~~(71), (72) and (73)~~ are blocked.

12. (Currently Amended) An attenuator with switch function, comprising:

a series circuit of a first and a second variable resistors ~~(61) and (62)~~ which are inserted in at least one first signal line [[(71)]] which connects a first signal input part [[(65)]] with a first signal output part [[(68)]];

a third variable resistor [[(63)]] inserted in a second signal line [[(72)]] which connects a second signal input part [[(66)]] with a second signal output part [[(69)]];

a fourth variable resistor [[(64)]] inserted in a third signal line [[(73)]] which connects a third signal input part [[(67)]] with a third signal output part [[(70)]]; [[and]]

a first, a second, a third and a fourth reference voltage applying parts ~~(76), (77), (78) and (79)~~ which are connected

respectively with said first, said second, said third and said fourth variable resistors ~~(61), (62), (63) and (64)~~ and are applied respectively with different reference voltages; and

a gain control voltage applying part [[(75)]] which is connected with each one of said first, said second, said third and said fourth variable resistors ~~(61), (62), (63) and (64)~~ via a common gain control line [[(74)]].

13. (Withdrawn) A mobile telephone terminal device, characterized in using, for the purpose of switching of a selected band between two bands and for the purpose of gain control in the selected band, an attenuator with switch function which comprises: a first variable resistor (41) inserted in a first signal line (47) which connects a first signal input part (43) with a first signal output part (45); and a second variable resistor (42) inserted in a second signal line (48) which connects a second signal input part (44) with a second signal output part (46), said attenuator being characterized in that as the attenuation of each one of said first and said second variable resistors (41) and (42) is controlled by means of a gain control voltage, either one of outputs on said first and said second signal lines (47) and (48) is blocked and the gain of the

remaining output on said first and said second signal lines (47) and (48) is controlled linearly and continuously.

14. (Withdrawn) A mobile telephone terminal device, characterized in using, for the purpose of switching of a selected band between two bands and for the purpose of gain control in the selected band, an attenuator with switch function which comprises: a first variable resistor (41) inserted in a first signal line (47) which connects a first signal input part (43) with a first signal output part (45); a second variable resistor (42) inserted in a second signal line (48) which connects a second signal input part (44) with a second signal output part (46); a first and a second reference voltage applying parts (51) and (52) which are connected respectively with said first and said second variable resistors (41) and (42); and a gain control voltage applying part (50) which is connected with each one of said first and said second variable resistors (41) and (42) via a common gain control line (49).

15. (Withdrawn) The mobile telephone terminal device of claim 14, wherein said first variable resistor (41) has a structure that a first resistor (54) is connected at least with the gate of a first field effective transistor (53), said second

variable resistor (42) has a structure that a second resistor (56) is connected at least with the gate of a second field effective transistor (55), the gate of said first field effective transistor (53) is connected with said gain control voltage applying part (50) via said first resistor (54) and said gain control line (49), the source of said second field effective transistor (55) is connected with said gain control voltage applying part (50) via said gain control line (49), the source of said first field effective transistor (53) is connected with said first reference voltage applying part (51), and the gate of said second field effective transistor (55) is connected with said second reference voltage applying part (52) via said second resistor (56).

16. (Withdrawn) The mobile telephone terminal device of claim 14, wherein a voltage applied to said second reference voltage applying part (52) is lower than a voltage applied to said first reference voltage applying part (51).

17. (Withdrawn) The mobile telephone terminal device of claim 15, wherein a voltage applied to said second reference voltage applying part (52) is lower, by a value which is calculated by subtracting a difference between gain control

voltages which completely turn off said first and said second field effective transistors (53) and (55) from the sum of the threshold voltage of said first field effective transistor (53) and the threshold voltage of said second field effective transistor (55), than a voltage applied to said first reference voltage applying part (51).

18. (Withdrawn) The mobile telephone terminal device of claim 14, wherein the values of voltages applied to said first and said second reference voltage applying parts (51) and (52) are set such that the gain control voltage range over which said first variable resistor (41) performs a gain control operation will not overlap with the gain control voltage range over which said second variable resistor (42) performs a gain control operation.

19. (Withdrawn) The mobile telephone terminal device of claim 14, wherein the values of voltages applied to said first and said second reference voltage applying parts (51) and (52) are set such that the gain control voltage range over which said second variable resistor (42) performs a gain control operation will be lower than the gain control voltage range over which said first variable resistor (41) performs a gain control operation.

20. (Withdrawn) The mobile telephone terminal device of claim 15, wherein the values of voltages applied to said first and said second reference voltage applying parts (51) and (52) are set such that a gain control voltage which completely turns off said second field effective transistor (55) will be lower than a gain control voltage which completely turns off said first field effective transistor (53).

21. (Withdrawn) The mobile telephone terminal device of claim 15, wherein the values of voltages applied to said first and said second reference voltage applying parts (51) and (52) are set such that only when one of said first and said second field effective transistors (53) and (55) is completely off, the other one of said first and said second field effective transistors (53) and (55) will perform a gain control operation.

22. (Withdrawn) The mobile telephone terminal device of claim 14, wherein said first variable resistor (41) has a structure that a first resistor (54) is connected at least with the gate of a first field effective transistor (53); said second variable resistor (42) has a structure that a second resistor (56) is connected at least with the gate of a second field effective transistor (55); the gate of said first field effective

transistor (53) is connected with said gain control voltage applying part (50) via said first resistor (54) and said gain control line (49); the source of said second field effective transistor (55) is connected with said gain control voltage applying part (50) via said gain control line (49); a third resistor (57) is inserted between the source of said first field effective transistor (53) and a portion (60) which is connected with the gate of said second field effective transistor (55) via said second resistor (56); a fourth resistor (58) is inserted between said portion (60), which is connected with the gate of said second field effective transistor (55) via said second resistor (56), and a basic potential portion (59); and the source of said first field effective transistor (53) is connected with said first reference voltage applying part (51).

23. (Withdrawn) A mobile telephone terminal device, characterized in using, for the purpose of switching of a selected band among at least three bands or more and for the purpose of gain control in the selected band, an attenuator with switch function which comprises: a series circuit of a first and a second variable resistors (61) and (62) which are inserted in at least one first signal line (71) which connects a first signal input part (65) with a first signal output part (68); and a third

variable resistor (63) inserted in a second signal line (72) which connects a second signal input part (66) with a second signal output part (69); a fourth variable resistor (64) inserted in a third signal line (73) which connects a third signal input part (67) with a third signal output part (70), said attenuator being characterized in that as the attenuation of each one of said first, said second, said third and said fourth variable resistors (61), (62), (63) and (64) is controlled by means of a gain control voltage, the gain of either one of outputs on said first, said second and said third signal lines (71), (72) and (73) is controlled linearly and continuously and the remaining ones of said first, said second and said third signal lines (71), (72) and (73) are blocked.

24. (Withdrawn) A mobile telephone terminal device, characterized in using, for the purpose of switching of a selected band among at least three bands or more and for the purpose of gain control in the selected band, an attenuator with switch function which comprises: a series circuit of a first and a second variable resistors (61) and (62) which are inserted in at least one first signal line (71) which connects a first signal input part (65) with a first signal output part (68); a third variable resistor (63) inserted in a second signal line (72)

which connects a second signal input part (66) with a second signal output part (69); a fourth variable resistor (64) inserted in a third signal line (73) which connects a third signal input part (67) with a third signal output part (70); and a first, a second, a third and a fourth reference voltage applying parts (76), (77), (78) and (79) which are connected respectively with said first, said second, said third and said fourth variable resistors (61), (62), (63) and (64); and a gain control voltage applying part (75) which is connected with each one of said first, said second, said third and said fourth variable resistors (61), (62), (63) and (64) via a common gain control line (74).

25. (Withdrawn) A mobile telephone terminal device, characterized in comprising: a baseband part (101), which processes a speech signal and a radio part (201), which receives the speech signal processed by said baseband part (101) and communicates with a base station; said radio part (201) is comprised of a sender part (260) which generates a send signal to said base station and a receiver part (220) which receives the send signal from said base station; said sender part (260) is comprised of an intermediate frequency part (230), which is formed by a modulator (231) which modulates an intermediate frequency signal in accordance with the speech signal which is

provided from said baseband part (101), a variable gain intermediate frequency amplifier (232) which controls the gain of said intermediate frequency signal and a mixer (233) which performs mixing for frequency conversion from said intermediate frequency signal into a high frequency signal, and a high frequency part (270) which amplifies said high frequency signal outputted from said intermediate frequency part (230) and supplies to an antenna (300); said high frequency part (270) is comprised of a gain controller with switch function (271), which switches a selected band between two bands outputted from said intermediate frequency part (230) and controls the gain of said high frequency signal in the selected band, and two power amplifiers (242) and (252) which respectively power-amplify two outputs from said gain controller with switch function (271); said gain controller with switch function (271) includes an attenuator with switch function (272) which switches a selected band between two bands outputted from said intermediate frequency part (230) and controls the gain of said high frequency signal in the selected band, said mobile telephone terminal device being characterized in that said baseband part (101) includes a control part (120); said control part (120) detects signal information about a receive signal received by said receiver part (220) and adds a gain control voltage corresponding to this information to

said attenuator with switch function (272) so that an output from either one (242) of said two power amplifiers is taken over by an output from the other one (252) of said two power amplifiers; a target value for the output level of the other one (252) of said two power amplifiers is then set in accordance with the signal information about said receive signal; the output level of the other one (252) of said two power amplifiers is compared with the target value for the output level of the other one (252) of said two power amplifiers; a gain control voltage corresponding to the result of the comparison is added to said attenuator with switch function (272) and said variable gain intermediate frequency amplifier (232), thereby follow-up controlling the gains of said attenuator with switch function (272) and said variable gain intermediate frequency amplifier (232) such that the output level of the other one (252) of said two power amplifiers will become equal to the target value for the output level of the other one (252) of said two power amplifiers, and that said attenuator with switch function (272) is comprised of a first variable resistor (41), which is inserted in a first signal line (47) which connects a first signal input part (43) for said high frequency signal with a first signal output part (45) and for said high frequency signal; and a second variable resistor (42) which is inserted in a second signal line (48) which connects a second

signal input part (44) for said high frequency signal with a second signal output part (46) for said high frequency signal; the attenuation of each one of said first and said second variable resistors (41) and (42) is controlled using a gain control voltage, thereby blocking either one of outputs on said first and said second signal lines (47) and (48) while linearly and continuously controlling the remaining one of the outputs on said first and said second signal lines (47) and (48); and said attenuator with switch function (272) accordingly switches to the output from said power amplifier (252) from the output from said power amplifier (242) while linearly and continuously controlling the gain of the output from said power amplifier (252).

26. (Withdrawn) A mobile telephone terminal device, characterized in comprising: a baseband part (101), which processes a speech signal and a radio part (201), which receives the speech signal processed by said baseband part (101) and communicates with a base station; said radio part (201) is comprised of a sender part (260) which generates a send signal to said base station and a receiver part (220) which receives the send signal from said base station; said sender part (260) is comprised of an intermediate frequency part (230), which is formed by a modulator (231) which modulates an intermediate

frequency signal in accordance with the speech signal which is provided from said baseband part (101), a variable gain intermediate frequency amplifier (232) which controls the gain of said intermediate frequency signal and a mixer (233) which performs mixing for frequency conversion from said intermediate frequency signal into a high frequency signal, and a high frequency part (270) which amplifies said high frequency signal outputted from said intermediate frequency part (230) and supplies to an antenna (300); said high frequency part (270) is comprised of a gain controller with switch function (271), which switches a selected band between two bands outputted from said intermediate frequency part (230) and controls the gain of said high frequency signal in the selected band, and two power amplifiers (242) and (252) which respectively power-amplify two outputs from said gain controller with switch function (271); said gain controller with switch function (271) includes an attenuator with switch function (272) which switches a selected band between two bands outputted from said intermediate frequency-part (230) and controls the gain of said high frequency signal in the selected band, said mobile telephone terminal device being characterized in that said baseband part (101) includes a control part (120); said control part (120) detects signal information about a receive signal received by said

receiver part (220) and adds a gain control voltage corresponding to this information to said attenuator with switch function (272) so that an output from either one (242) of said two power amplifiers is taken over by an output from the other one (252) of said two power amplifiers; a target value for the output level of the other one (252) of said two power amplifiers is then set in accordance with the signal information about said receive signal; the output level of the other one (252) of said two power amplifiers is compared with the target value for the output level of the other one (252) of said two power amplifiers; a gain control voltage corresponding to the result of the comparison is added to said attenuator with switch function (272) and said variable gain intermediate frequency amplifier (232), thereby follow-up controlling the gains of said attenuator with switch function (272) and said variable gain intermediate frequency amplifier (232) such that the output level of the other one (252) of said two power amplifiers will become equal to the target value for the output level of the other one (252) of said two power amplifiers, and that said attenuator with switch function (272) is comprised of: a first variable resistor (41) which is inserted in a first signal line (47) which connects a first signal input part (43) for said high frequency signal with a first signal output part (45) and for said high frequency signal;

a second variable resistor (42) which is inserted in a second signal line (48) which connects a second signal input part (44) for said high frequency signal with a second signal output part (46) for said high frequency signal; a first and a second reference voltage applying parts (51) and (52) which are connected respectively with said first and said second variable resistors (41) and (42); and a gain control voltage applying part (50) which is connected with each one of said first and said second variable resistors (41) and (42) via a common gain control line (49).